UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project | Date November 2, 1949 | Author Archie L. Gibson

SUBJECT—

TITLE

FOREST DEFOLIATOR CONDITIONS IN A
PORTION OF WESTERN IDAHO - 1949

By: Archie L. Gibson

Forest Insect Laboratory
Coeur d'Alene, Idaho

INDEX NO.

U. S. GOVERNMENT PRINTING OFFICE 16—47272-1

FOREST DEFOLIATOR CONDITIONS IN A PORTION OF WESTERN IDAHO - 1949

By: Archie L. Gibson

This survey was initiated to determine the extent and severity of defoliation in timber stands south of Lewiston, Idaho to Township 22 Northeast of the Snake River and west of the Salmon River, Cottonwood and Craigmont. Included in the region are private, national forest and state owned lands. Limited time, due to imminence of winter conditions and the large area to be surveyed, made it necessary to confine examinations to areas accessible to roads and to vantage points. The period from October 20 to 27 was spent making the examinations.

Major, if not the sole cause of defoliation, was the spruce budworm. White fir and alpine fir were the preferred hosts in this region with Engelmann spruce next in preference and Douglas fir third. A few young ponderosa pine were defoliated of the current years needle growth in the top of the tree and some mountain mahogany had the top three feet of its crown killed by a defoliator, presumably the spruce budworm.

The spruce budworm was present wherever there was white or alpine fir although in many cases the only evidence was a few partly eaten needles or a chrysalid case. In no areas was there defoliation sufficiently severe to cause the death of mature trees. Young white and alpine fir under large, mature trees of the same species had been completely defoliated to as much as ten feet from their top. In addition more or less of the current years and old growth had been destroyed on branch tips. In the most severely defoliated area it is estimated that 20 percent of the leaders of young trees may be killed but no less will occur in mature timber.

Much of the region examined has been cut over, with the residual stand comprising young trees too small to be taken at the time of cutting and mature trees, largely white and alpine fir, which had been of insufficient value to harvest.

In the following tabulation the data obtained is given in three degrees of defoliation for the various sections and drainages. Very light defoliation varies from a few needles destroyed on leader and branch tips to defoliation of the current years leader and not over 5 percent of the branch tips. Light defoliation includes from the maximum of the preceding degree to as much as 2 feet of the leader defoliated, but none killed, and up to 50 percent of the branch tips defoliated. Medium

defoliation includes from the maximum of the preceding degree to the total loss of foliage on as much as 10 feet of the top of young trees, and more than 50 percent of the branch tips defoliated. This may include considerable old foliage consumed and up to 20 percent of the leaders killed. As has been previously stated, the budworm is present wherever white fir or alpine fir is a part of the stand. In spite of this condition no heavily defoliated areas were found.

In this tabulation sections are given under the different degrees of defoliation. That does not mean the entire section contained trees defoliated to that degree, merely that in passing thru that section that condition was observed.

Scattered over the entire area surveyed are patches of young ponderosa pine weakened by winter kill in 1947-48. The mountain pine beetle, the western pine beetle, and Ips oregoni have invaded and are building up in these trees. Where logging has recently been or is in progress attacked trees are more numerous.

It is felt that these spots of infestation should be examined again in 1950 in order that any potentially dangerous outbreaks might be recognized in their early stages.

DEGREES OF DEFOLIATION ON AREAS EXAMINED
1949

AREA			DEFOLIATION		
Township	Range	Section	Very light	Light	Medium
23 N	1 W	25,36	*		
24 N	1 W	27,28,34,35			*
24 N	1 W	26		*	
24 N	1 W	32,33	*		
Squaw Creek			*		
25 N	2 E	33,34	*		
25 N	1 E	20		*	
25 N	1 E	7,17			*
25 N	1 E	5,6	*		
25 N	1 W	1,12,26,27,34,35		*	
25 N	1 W	11,14			*
25 N	1 W	15	*		
26 N	1 E	31,29,30,32	*		
26 N	1 W	35,36	*		
26 N	1 W	27		*	
31 N	4 W	3,4,5,8,9,10,14,15		*	
32 N	3 W	18,24	*		
32 N	3 W	31		*	
32 N	4 W	10,14,21,22,23,25,26,(S½) 28,33,36		*	
32 N	4 W	1,2,11,12,14, 15	*		
33 N	3 W	7,18,19			*
33 N	3 W	23, 30,32,33,29	*		
33 N	4 W	13,14,15,16,22,23, 26,(N½)27,35,36	*		
33 N	4 W	15,23,24,26(N½)			*

* Part